* NOTICES *

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CLAIMS

[The scope of a claim for utility model registration]
[Claim 1]A connecting ring (1) holding two or more contact pins (1B) which a collar (1A) is formed, and both ends expand and contract with elasticity for IC testers When measuring contact resistance, a connecting ring (1) space into which it goes is formed -- an attachment board (2) A stand (3) attached upwards. A stand (3) A complete flow board (4) with which a guide pin with two or more screw threads (3A) to set up and an upper bed of a contact pin (1B) contact electrically It has, A guide pin (3A) is put into a hole formed in a collar (1A), and it is a connecting ring (1). A stand (3) It carries, A spacer (5) of length corresponding to the amount of descent as which an upper bed of a contact pin (1B) is required It puts into a guide pin (3A), A spacer (5) It is a complete flow board (4) upwards. It carries and is a cap screw (6). A connecting ring (1) A complete flow board (4) A stand (3) An inspection jig of a fixing connecting ring for IC testers.

[Translation done.]

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DETAILED DESCRIPTION

[A detailed explanation of the device]
[0001]
[Industrial Application]
This device is a thing about a jig which inspects the contact resistance holding two or more contact pins of the connecting ring for IC testers.
[0002]
[Description of the Prior Art]
Next, the connecting ring for IC testers inspected with reference to drawing 1 is explained.
1 of drawing 1 is a connecting ring, the collar 1A is formed in the periphery of the connecting ring 1, and two or more contact pins 1B which both ends expand and contract with elasticity are held in the connecting ring 1.
[0003]
The connecting ring 1 of drawing 1 is carried in the test head of an IC tester, the lower end of the contact pin 1B contacts a test head electrically, and the upper bed of the contact pin 1B contacts a probe card and a contact board. A measurement signal is sent and received from a test head, the connecting ring 1 is relayed, and an IC chip and IC are measured.
[0004]
Next, drawing 2 explains the structure of the contact pin 1B. Drawing 2 is an important section expanded sectional view of drawing 1. As for an insulating ring and 15, 11 and 12 of drawing 2 are [a ball and 16] helical compression springs a contact needle, and 13 and 14 an outer case and 17.
[0005]
In drawing 2, the outer case 15 is held with the insulating rings 13 and 14 at the connecting ring 1. The outer case 15 includes the helical compression spring 16 and the ball 17, and the helical compression spring 16 presses the contact needles 11 and 12 mediating the ball 17.

[0006]

[Problem(s) to be Solved by the Device]

The connecting ring 1 shown in drawing 1 needs to inspect the contact resistance of the contact pin 1B, before being carried in a test head. Since the amount of depressions of the contact needles 11 and 12 changes with specifications of the connecting ring 1, where the amount of depressions as which the contact needles 11 and 12 are required is maintained, it is necessary to inspect the contact resistance of the contact pin 1B.

[0007]

This device attaches a stand to an attachment board, is ****ed and attached to a stand, and sets up a guide pin, It aims at offer of the inspection jig of the connecting ring for IC testers which measures the contact resistance of a contact pin by carrying a connecting ring in a stand, putting the spacer of predetermined length into a guide pin, and forming on a spacer the complete flow board which contacts a contact pin electrically.

[0008]

[Means for Solving the Problem]

In order to attain this purpose, when measuring contact resistance holding two or more contact pins 1B the collar 1A is formed, and both ends expand and contract with elasticity in this device of the connecting ring 1 for IC testers, The stand 3 which space containing the connecting ring 1 is formed and is attached on the attachment board 2, It has the guide pin 3A with two or more screw threads set up on the stand 3, and the complete flow board 4 with which an upper bed of the contact pin 1B contacts electrically, Put the guide pin 3A into a hole formed in the collar 1A, and the connecting ring 1 is carried in the stand 3, The spacer 5 of length corresponding to the amount of descent as which an upper bed of the contact pin 1B is required is put into the guide pin 3A, the complete flow board 4 is carried on the spacer 5, and the connecting ring 1 and the complete flow board 4 are fixed to the stand 3 with the cap screw 6.

[0009]

[Function]

Next, drawing 1 explains the composition of the inspection jig by this device. 2 of drawing 1 ****s an attachment board, a stand and 3A **** 3, and, as for the attached guide pin and 4, a spacer and 6 are lockscrews a complete flow board and 5.

[0010]

In drawing 1, the stand 3 is attached on the attachment board 2 mediating the electric insulating plate 3B and soleplate 3C. The space containing the connecting ring 1 is formed in the center section of the stand 3.

On the stand 3, two or more guide pins 3A with a screw thread set up. Flow material is formed in the surface so that the contact pin 1B said ** may flow through the complete flow board 4

electrically, if the upper bed of the contact pin 1B contacts.

[0011]

The spacer 5 goes into the guide pin 3A, and the thing of different length is prepared. A female screw is formed in the cap screw 6, and if the guide pin 3A is equipped and it rotates, the mounting object of the guide pin 3A is fixed.

[0012]

Next, an operation of drawing 1 is explained. The guide pin 3A is put into the hole formed in the collar 1A, and the connecting ring 1 is carried in the stand 3. Next, the spacer 5 is put into the guide pin 3A. At this time, the length of the spacer 5 mounts the thing corresponding to the amount of descent as which the upper bed of the contact pin 1B is required. Next, inspection preparation will be completed, if the complete flow board 4 is carried on the spacer 5 and the connecting ring 1 and the complete flow board 4 are fixed to the stand 3 with the cap screw 6.

[0013]

In the state of drawing 1, the interval X of drawing 2 can be chosen corresponding to the length of the spacer 5. That is, the amount of depressions of the contact needle 11 is adjusted by the length of the spacer 5. Since the electric insulating plate 3B and soleplate 3C are inserted between the stand 3 and the attachment board 2, the interval Y of drawing 2 is securable. That is, the fixed amount of depressions can be obtained to a contact needle.

[0014]

the state same in drawing 1 as the time of carrying the connecting ring 1 in a test head is securable -- the contact needle 11 -- said -- carrying out -- since it has connected too hastily with the complete flow board 4, it becomes possible to measure the contact resistance of the contact pin 1B.

[0015]

Drawing 3 is the figure which connected the inspection jig 20 and the board tester 30 by this device.

The inspection jig 20 and the board tester 30 send and receive a measurement signal, and as shown in drawing 3, they are connected by the connector 21. Drawing 3 It is the connecting ring 1 with the 512 contact pins 1B, and measurement of resistance of the contact pin 1B and the contact resistance of the complete flow board 4 and the attachment board 2 is possible, and they can also specify the faulty contact pin 1B.

[0016]

[Effect of the Device]

This device attaches a stand to an attachment board, is ****ed and attached to a stand, and sets up a guide pin, A connecting ring is carried in a stand, the spacer of predetermined length is put into a guide pin, and since the complete flow board which contacts a contact pin electrically is formed on the spacer, it becomes easy to measure the contact resistance of the

contact pin of the connecting ring for IC testers.

[Translation done.]

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TECHNICAL FIELD

[Industrial Application]
This device is a thing about a jig which inspects the contact resistance holding two or more contact pins of the connecting ring for IC testers.
[0002]

[Translation done.]

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PRIOR ART

[Description of the Prior Art]
Next, the connecting ring for IC testers inspected with reference to drawing 1 is explained.
1 of drawing 1 is a connecting ring, the collar 1A is formed in the periphery of the connecting ring 1, and two or more contact pins 1B which both ends expand and contract with elasticity are held in the connecting ring 1.
[0003]
The connecting ring 1 of drawing 1 is carried in the test head of an IC tester, the lower end of the contact pin 1B contacts a test head electrically, and the upper bed of the contact pin 1B contacts a probe card and a contact board. A measurement signal is sent and received from a test head, the connecting ring 1 is relayed, and an IC chip and IC are measured.
[0004]
Next, drawing 2 explains the structure of the contact pin 1B. Drawing 2 is an important section expanded sectional view of drawing 1. As for an insulating ring and 15, 11 and 12 of drawing 2 are [a ball and 16] helical compression springs a contact needle, and 13 and 14 an outer case and 17.
[0005]
In drawing 2, the outer case 15 is held with the insulating rings 13 and 14 at the connecting ring 1. The outer case 15 includes the helical compression spring 16 and the ball 17, and the helical compression spring 16 presses the contact needles 11 and 12 mediating the ball 17.
[0006]

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EFFECT OF THE INVENTION

[Effect of the Device]
This device attaches a stand to an attachment board, is ****ed and attached to a stand, and sets up a guide pin, A connecting ring is carried in a stand, the spacer of predetermined length is put into a guide pin, and since the complete flow board which contacts a contact pin electrically is formed on the spacer, it becomes easy to measure the contact resistance of the contact pin of the connecting ring for IC testers.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Device]
The connecting ring 1 shown in drawing 1 needs to inspect the contact resistance of the contact pin 1B, before being carried in a test head. Since the amount of depressions of the contact needles 11 and 12 changes with specifications of the connecting ring 1, where the amount of depressions as which the contact needles 11 and 12 are required is maintained, it is necessary to inspect the contact resistance of the contact pin 1B.
[0007]
This device attaches a stand to an attachment board, is ****ed and attached to a stand, and sets up a guide pin, It aims at offer of the inspection jig of the connecting ring for IC testers which measures the contact resistance of a contact pin by carrying a connecting ring in a stand, putting the spacer of predetermined length into a guide pin, and forming on a spacer the complete flow board which contacts a contact pin electrically.
[0008]

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MEANS

[Means for Solving the Problem]
In order to attain this purpose, when measuring contact resistance holding two or more contact pins 1B the collar 1A is formed, and both ends expand and contract with elasticity in this device of the connecting ring 1 for IC testers, The stand 3 which space containing the connecting ring 1 is formed and is attached on the attachment board 2, It has the guide pin 3A with two or more screw threads set up on the stand 3, and the complete flow board 4 with which an upper bed of the contact pin 1B contacts electrically, Put the guide pin 3A into a hole formed in the collar 1A, and the connecting ring 1 is carried in the stand 3, The spacer 5 of length corresponding to the amount of descent as which an upper bed of the contact pin 1B is required is put into the guide pin 3A, the complete flow board 4 is carried on the spacer 5, and the connecting ring 1 and the complete flow board 4 are fixed to the stand 3 with the cap screw 6.
[0009]

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OPERATION

[Function]
Next, drawing 1 explains the composition of the inspection jig by this device. 2 of drawing 1 ****s an attachment board, a stand and 3A **** 3, and, as for the attached guide pin and 4, a spacer and 6 are lockscrews a complete flow board and 5.
[0010]
In drawing 1, the stand 3 is attached on the attachment board 2 mediating the electric insulating plate 3B and soleplate 3C. The space containing the connecting ring 1 is formed in the center section of the stand 3.
On the stand 3, two or more guide pins 3A with a screw thread set up. Flow material is formed in the surface so that the contact pin 1B said ** may flow through the complete flow board 4 electrically, if the upper bed of the contact pin 1B contacts.
[0011]
The spacer 5 goes into the guide pin 3A, and the thing of different length is prepared. A female screw is formed in the cap screw 6, and if the guide pin 3A is equipped and it rotates, the mounting object of the guide pin 3A is fixed.
[0012]
Next, an operation of drawing 1 is explained. The guide pin 3A is put into the hole formed in the collar 1A, and the connecting ring 1 is carried in the stand 3. Next, the spacer 5 is put into the guide pin 3A. At this time, the length of the spacer 5 mounts the thing corresponding to the amount of descent as which the upper bed of the contact pin 1B is required. Next, inspection preparation will be completed, if the complete flow board 4 is carried on the spacer 5 and the connecting ring 1 and the complete flow board 4 are fixed to the stand 3 with the cap screw 6.
[0013]
In the state of drawing 1, the interval X of drawing 2 can be chosen corresponding to the length of the spacer 5. That is, the amount of depressions of the contact needle 11 is adjusted by the

length of the spacer 5. Since the electric insulating plate 3B and soleplate 3C are inserted between the stand 3 and the attachment board 2, the interval Y of drawing 2 is securable. That is, the fixed amount of depressions can be obtained to a contact needle.

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the state same in drawing 1 as the time of carrying the connecting ring 1 in a test head is securable -- the contact needle 11 -- said -- carrying out -- since it has connected too hastily with the complete flow board 4, it becomes possible to measure the contact resistance of the contact pin 1B.

[0015]

Drawing 3 is the figure which connected the inspection jig 20 and the board tester 30 by this device.

The inspection jig 20 and the board tester 30 send and receive a measurement signal, and as shown in drawing 3, they are connected by the connector 21. Drawing 3 It is the connecting ring 1 with the 512 contact pins 1B, and measurement of resistance of the contact pin 1B and the contact resistance of the complete flow board 4 and the attachment board 2 is possible, and they can also specify the faulty contact pin 1B.

[0016]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a lineblock diagram of the inspection jig by this device.
[Drawing 2]It is an important section expanded sectional view of drawing 1.
[Drawing 3]It is the figure which connected the inspection jig and board tester by this device.
[Description of Notations]
1 Connecting ring
1A Collar
1B Contact pin
2 Attachment board
3 Stand
3A Guide pin
4 Complete flow board
5 Spacer
6 Cap screw

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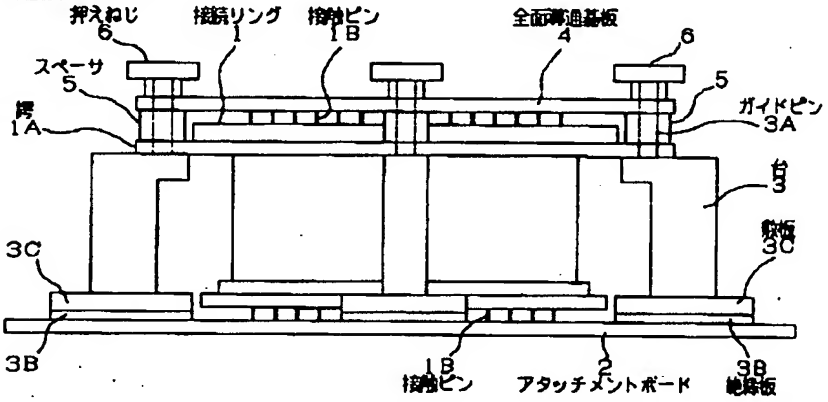
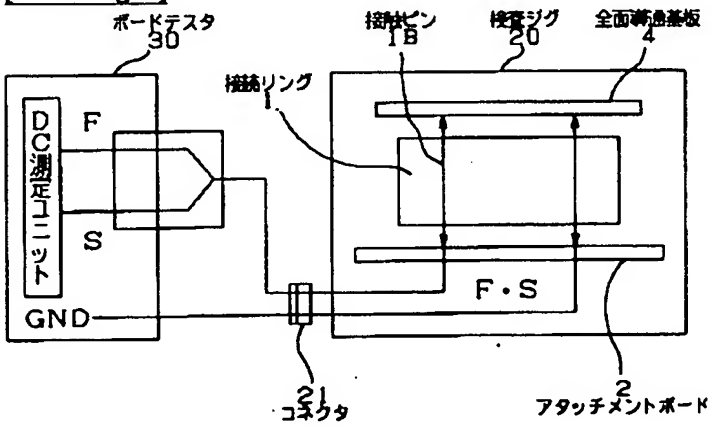
DRAWINGS

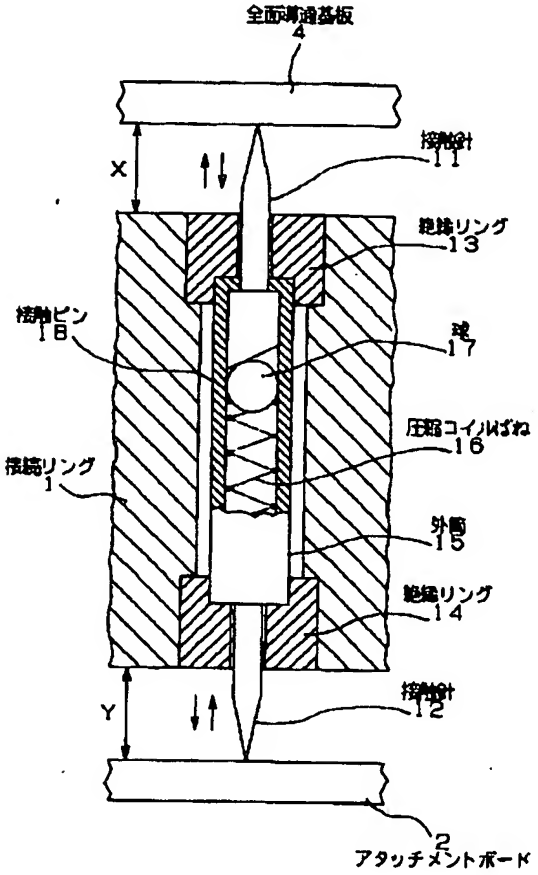
[Drawing 1]



[Drawing 3]



[Drawing 2]



[Translation done.]

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Ｇ０１Ｒ	1/06	Ｚ			
	27/02	Ｒ	8117－2Ｇ		
	31/28	Ｊ	9214－2Ｇ		
Ｈ０１Ｌ	21/66	Ｄ	7630－4Ｍ		

審査請求　未請求　請求項の数１　ＦＤ　（全 3 頁）

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(71)出願人　000117744
安藤電気株式会社
東京都大田区蒲田４丁目19番７号

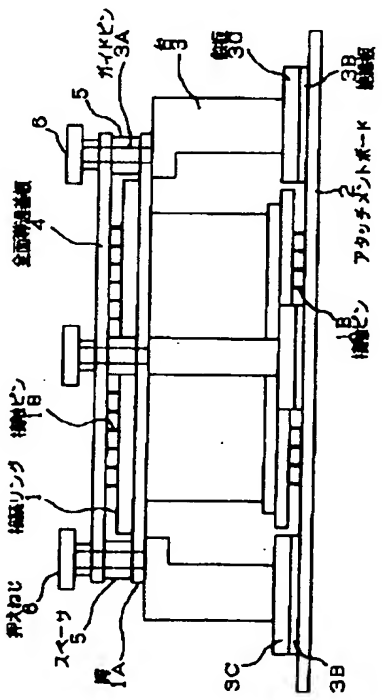
(72)考案者　小池　俊之
東京都大田区蒲田４丁目19番７号　安藤電気株式会社内

(54)【考案の名称】　ＩＣテスタ用接続リングの検査ジグ

(57)【要約】

【目的】　ＩＣテスタ用接続リング１の接触ピン１Ｂの接触抵抗を測定する検査ジグを提供する。

【構成】　アタッチメントボード２上に台３を取り付ける。複数のねじ付きのガイドピン３Ａを台３に立設する。鍔１Ａに形成された穴にガイドピン３Ａを入れて接続リング１を台３に搭載し、接触ピン１Ｂの上端が要求される降下量に対応した長さのスペーサ５をガイドピン３Ａに入れる。スペーサ５上に接触ピン１Ｂの上端が電気的に接触する全面導通基板４を搭載し、押えねじ６で接続リング１全面導通基板４を台３に固定する。アタッチメントボード２にボードテスタを接続して接触ピン１Ｂの接触抵抗を測定する。



1

【実用新案登録請求の範囲】

【請求項１】　鍔(1A)が形成され、両端が弾性をもって伸縮する接触ピン(1B)を複数保持するＩＣテスタ用の接続リング(1) の接触抵抗を測定する場合に、
接続リング(1) が入る空間が形成され、アタッチメントボード(2) 上に取り付けられる台(3) と、
台(3) に立設する複数のねじ付きのガイドピン(3A)と、
接触ピン(1B)の上端が電気的に接触する全面導通基板(4) とを備え、
鍔(1A)に形成された穴にガイドピン(3A)を入れて接続リング(1) を台(3) に搭載し、接触ピン(1B)の上端が要求される降下量に対応した長さのスペーサ(5) をガイドピン(3A)に入れ、スペーサ(5) 上に全面導通基板(4) を搭載し、押えねじ(6) で接続リング(1) と全面導通基板(4) を台(3) に固定することを特徴とするＩＣテスタ用接続リングの検査ジグ。

2

＊【図面の簡単な説明】

【図１】この考案による検査ジグの構成図である。

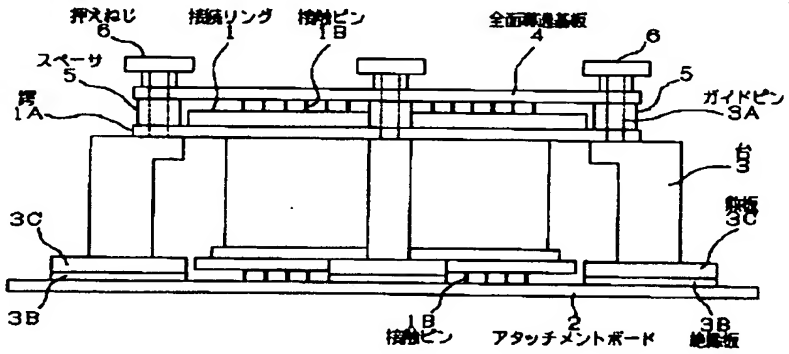
【図２】図１の要部拡大断面図である。

【図３】この考案による検査ジグとボードテスタを接続した図である。

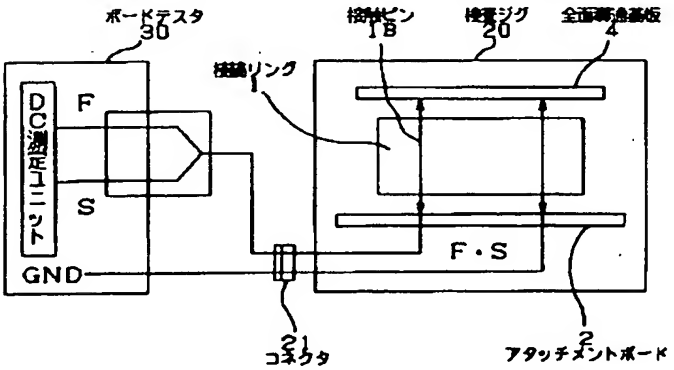
【符号の説明】

1　接続リング
1A　鍔
1B　接触ピン
2　アタッチメントボード
3　台
3A　ガイドピン
4　全面導通基板
5　スペーサ
6　押えねじ

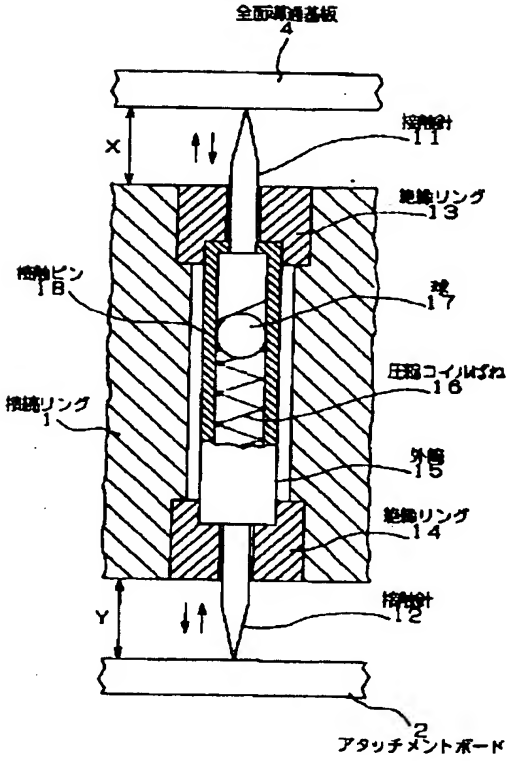
【図１】



【図３】



【図２】


全面導通基板
4
X
接触針
11
絶縁リング
13
接触ピン
18
球
17
圧縮コイルばね
16
接続リング
1
外筒
15
絶縁リング
14
Y
接触針
12
2
アタッチメントボード

【考案の詳細な説明】

【０００１】

【産業上の利用分野】

この考案は、接触ピンを複数保持するＩＣテスタ用接続リングの接触抵抗を検査するジグについてのものである。

【０００２】

【従来の技術】

次に、図１を参照して検査されるＩＣテスタ用接続リングについて説明する。図１の１は接続リングであり、接続リング１の外周には鍔１Ａが形成され、接続リング１内には両端が弾性をもって伸縮する接触ピン１Ｂが複数本保持される。

【０００３】

図１の接続リング１はＩＣテスタのテストヘッドに搭載され、接触ピン１Ｂの下端はテストヘッドと電気的に接触し、接触ピン１Ｂの上端はプローブカードやコンタクトボードに接触する。テストヘッドから測定信号を送受し、接続リング１を中継してＩＣチップやＩＣを測定する。

【０００４】

次に、接触ピン１Ｂの構造を図２により説明する。図２は図１の要部拡大断面図である。図２の１１と１２は接触針、１３と１４は絶縁リング、１５は外筒、１７は球、１６は圧縮コイルばねである。

【０００５】

図２では、外筒１５は絶縁リング１３・１４で接続リング１に保持される。外筒１５は圧縮コイルばね１６と球１７を内包し、圧縮コイルばね１６は球１７を仲介して接触針１１・１２を押圧する。

【０００６】

【考案が解決しようとする課題】

図１に示される接続リング１は、テストヘッドに搭載される前に接触ピン１Ｂの接触抵抗を検査する必要がある。また、接触針１１・１２の押下量は接続リング１の仕様により異なるので、接触針１１・１２が要求される押下量を維持した状態で接触ピン１Ｂの接触抵抗を検査する必要がある。

【０００７】

この考案は、アタッチメントボードに台を取り付け、台にねじ付きガイドピンを立設し、台に接続リングを搭載し、ガイドピンに所定の長さのスペーサを入れ、スペーサ上に接触ピンと電気的に接触する全面導通基板を設けることにより、接触ピンの接触抵抗を測定するＩＣテスタ用接続リングの検査ジグの提供を目的とする。

【０００８】

【課題を解決するための手段】

この目的を達成するため、この考案では、鍔１Ａが形成され、両端が弾性をもって伸縮する接触ピン１Ｂを複数保持するＩＣテスタ用の接続リング１の接触抵抗を測定する場合に、接続リング１が入る空間が形成され、アタッチメントボード２上に取り付けられる台３と、台３に立設する複数のねじ付きのガイドピン３Ａと、接触ピン１Ｂの上端が電気的に接触する全面導通基板４とを備え、鍔１Ａに形成された穴にガイドピン３Ａを入れて接続リング１を台３に搭載し、接触ピン１Ｂの上端が要求される降下量に対応した長さのスペーサ５をガイドピン３Ａに入れ、スペーサ５上に全面導通基板４を搭載し、押えねじ６で接続リング１と全面導通基板４を台３に固定する。

【０００９】

【作用】

次に、この考案による検査ジグの構成を図１により説明する。図１の２はアタッチメントボード、３は台、３Ａはねじ付きのガイドピン、４は全面導通基板、５はスペーサ、６は固定ねじである。

【００１０】

図１では、アタッチメントボード２上には絶縁板３Ｂと敷板３Ｃを仲介して台３が取り付けられる。台３の中央部には接続リング１が入る空間が形成される。台３上には複数のねじ付きガイドピン３Ａが立設する。全面導通基板４は接触ピン１Ｂの上端が接触すると、接触ピン１Ｂ同しが電気的に導通するように表面に導通材が形成されている。

【００１１】

スペーサ５はガイドピン３Ａに入り、異なる長さのものが用意される。押えねじ６には雌ねじが形成され、ガイドピン３Ａに装着して回転すると、ガイドピン３Ａの装着物を固定する。

【００１２】

次に、図１の作用を説明する。鍔１Ａに形成された穴にガイドピン３Ａを入れて接続リング１を台３に搭載する。次に、スペーサ５をガイドピン３Ａに入れる。このとき、スペーサ５の長さは接触ピン１Ｂの上端が要求される降下量に対応したものを実装する。次に、スペーサ５上に全面導通基板４を搭載し、押えねじ６で接続リング１と全面導通基板４を台３に固定すれば、検査準備が完了する。

【００１３】

図１の状態では、スペーサ５の長さに対応して図２の間隔Ｘが選択できる。すなわち、接触針１１の押下量をスペーサ５の長さで調整する。また、台３とアタッチメントボード２の間には絶縁板３Ｂと敷板３Ｃが挟まれているので、図２の間隔Ｙが確保できる。すなわち、接触針に一定の押下量を得ることができる。

【００１４】

図１では、接続リング１をテストヘッドに搭載したときと同じ状態を確保でき、接触針１１同しは全面導通基板４で短絡しているので接触ピン１Ｂの接触抵抗を測定することが可能になる。

【００１５】

図３はこの考案による検査ジグ２０とボードテスタ３０を接続した図である。図３に示されるように、検査ジグ２０とボードテスタ３０は測定信号を送受し、コネクタ２１で接続される。図３は 512本の接触ピン１Ｂをもつ接続リング１であり、接触ピン１Ｂの抵抗および、全面導通基板４とアタッチメントボード２との接触抵抗が測定ができ、不良の接触ピン１Ｂを特定することもできる。

【００１６】

【考案の効果】

この考案は、アタッチメントボードに台を取り付け、台にねじ付きガイドピンを立設し、台に接続リングを搭載し、ガイドピンに所定の長さのスペーサを入れ、スペーサ上に接触ピンと電気的に接触する全面導通基板を設けているので、Ｉ

Ｃテスタ用接続リングの接触ピンの接触抵抗を測定することが容易になる。